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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,874	11/08/2006	Syuichi Matsui	2006 _1573A	4402

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EXAMINER	
WU, SHEAN CHIU	

ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
09/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,874	MATSUI ET AL.	
	Examiner	Art Unit	
	Shean C. Wu	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44 and 46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,25,26 and 28-46* is/are rejected.

7)☒ Claim(s) *24 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

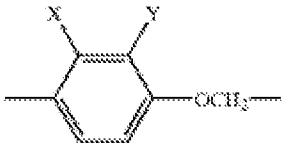
3. Claims 1-2, 36-44 and 46 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tamura et al. (US 6,576,303).

The reference discloses that a novel liquid crystal compound having a negative and absolutely large value of dielectric anisotropy, being excellent in compatibility with other liquid crystalline compounds at a low temperature and being stable chemically and physically, as well as a liquid crystal composition comprising this compound, and a liquid crystal display device comprising this liquid crystal composition are provided, said compound is expressed by the general formula (1):

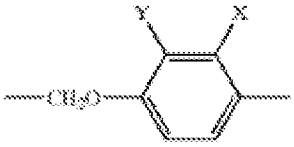
$$R^1—A^1—B^1—A^2—B^2—A^3—B^3—Z—B^4—A^4—R^2 \quad (I)$$

wherein A^1, A^2, A^3 and A^4 each independently represent a single bond, 1,4-cyclohexylene, 1,4-phenylene which may be substituted with a fluorine atom(s), dioxane-2,5-diyl, pyrimidine-2,5-diyl, piperidine-1,4-diyl, pyridine-2,5-diyl which may be substituted with a fluorine atom(s) or 1-sila-1,4-cyclohexylene; Z represents a group selected from divalent groups expressed by partial structural formulas (I) to (VI):

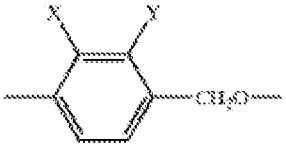
(I)



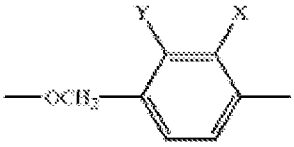
(II)



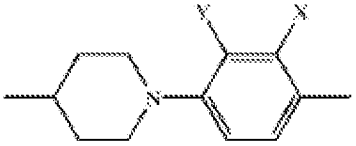
(III)



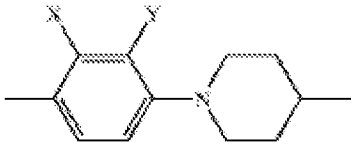
(IV)



(V)



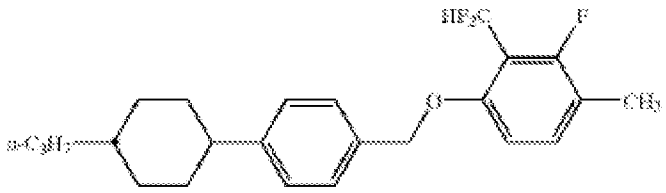
(VI)



wherein X represents a hydrogen atom or a fluorine atom, and Y represents difluoromethyl group, difluoromethoxy group, formyl group or carboxyl group; B^1, B^2, B^3 and B^4 each independently represent a single bond, 1,2-ethylene, 1,2-ethenylene, 1,2-ethynylene, oxymethylene, methyleneoxy, carbonyloxy, oxycarbonyl or 1,4-butylene group, provided that when Z is a group represented by the partial structural formula (III), then B^4 is neither oxymethylene nor oxycarbonyl group, and that when Z is a group represented by the partial structural formula (IV), then B^3 is neither methyleneoxy nor carbonyloxy group; R^3 and R^4 each independently represent an alkyl group or a fluoroalkyl group substituted with at least one fluorine atom having 1 to 10 carbon atoms in which alkyl group or fluoroalkyl group one or not adjacent two or more methylene groups may be replaced by an oxygen atom, a sulfur atom or —CH=CH—.

The reference compounds (1-1) to (1-72), wherein Y = CF_2H, X =F and with linking group -CH_2O- anticipate the claimed compounds, particularly, compound 202 in example 5. The compound 202 below reads on the claimed compound wherein j=k= 1, m=n=p=q =0 and Z^{11}= -CH_2O-.

(No. 202)

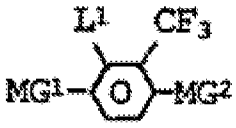


It is noted that Applicants interpret the compound of 202 as m=1 instead m =0. If compound 202 is represented as m=0, j=k=1, Z^{11} = -CH_2O- then compound 202 reads on the present broad claim (1).

With respect to claims 37-44, the reference discloses that the additional compounds represented by formulae (2)-(12) are useful for the liquid crystal composition. See the compositions 3-4, 7, 14 and 17. Therefore, the reference anticipates the claimed invention. If not anticipated, it would have been obvious to those skilled in the art to utilize the reference teaching by optimize the disclosed compounds to arrive at the claimed compound and used in liquid crystal composition and device thereof.

4. Claims 1-15, 23, 25-26, 28-30, 36-44 and 46 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over DE 4,338,348.

The reference discloses a 2, 6-di-substituted benzotrifluorides represented by formula (I)



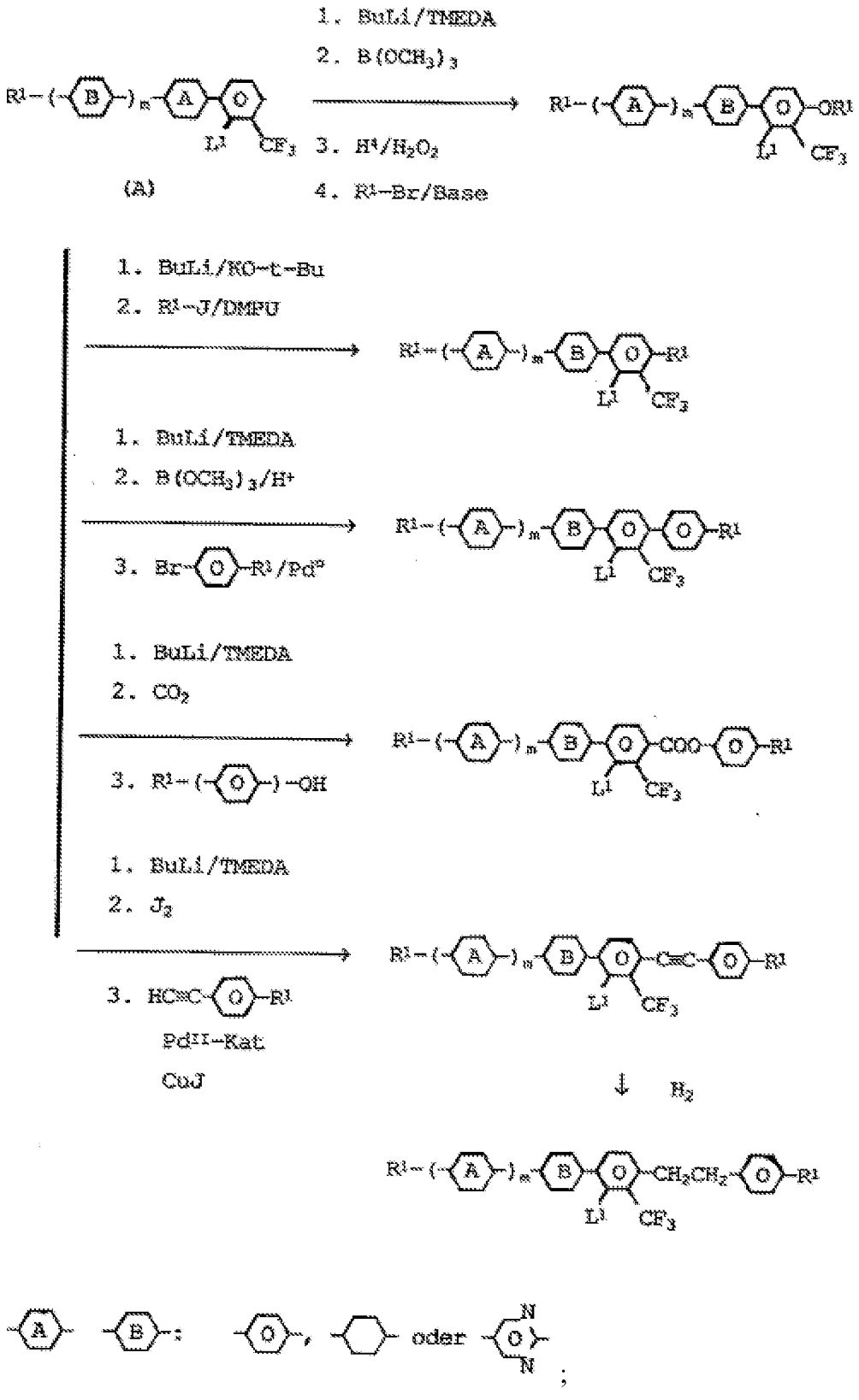
(I)

, wherein MG^1, MG^2 = a mesogenic groups; one of these groups can also = halogen, CN, NCS or R^1; R^1 = 1-18C alkyl or alkenyl (optionally substituted with at least one halogen or CN, and optionally with 1 or 2 non-adjacent CH_2 replaced by O, COO, OCO or S); L1 = F, CN or CF_3. Each of MG^1 and MG^2 is represented by formula (II)

$$Z^1-A^1-(Z^2-A^2)_m-R^2 \quad \text{(II)}$$

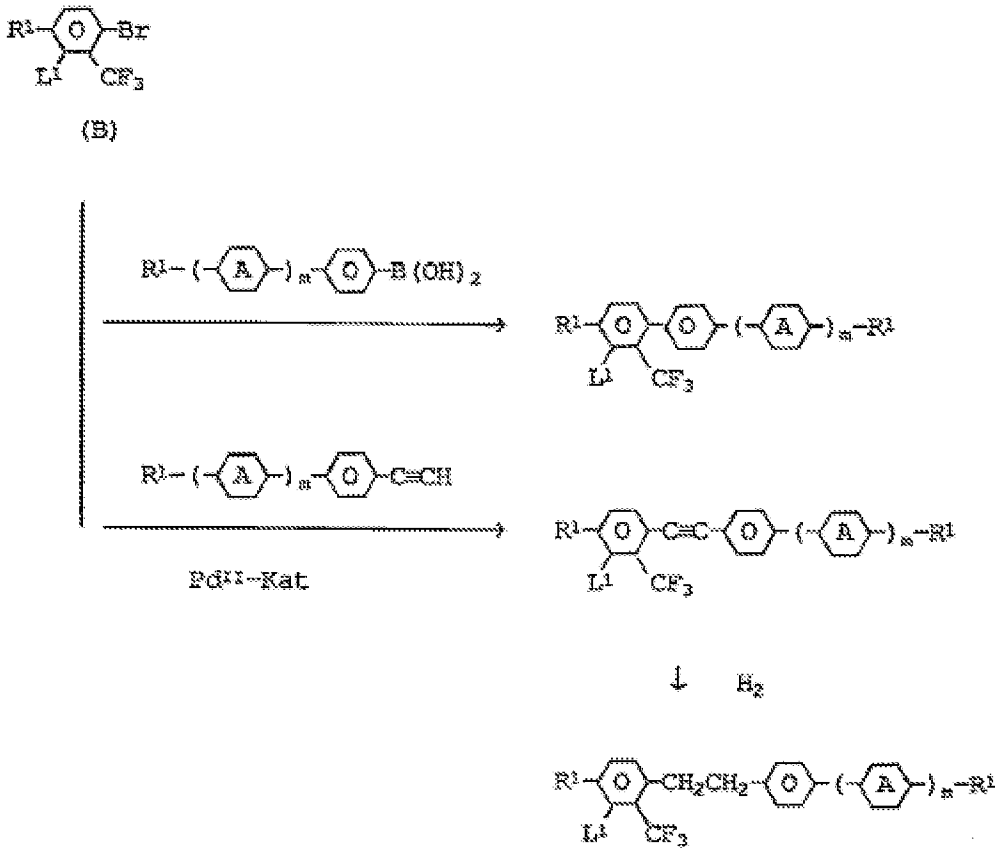
R^2 = halogen, NCS, CN, or optionally substituted alkyl or alkenyl; A^1, A^2 = 1, 4 phenylene (optionally substituted with 1 or 2 F atoms or with 1 or 2 CH replaced by N), 1, 4-cyclohexylene (optionally substituted with CN or with 1 or 2 CH_2 replaced by O or S), thiadiazol- 2, 5-diyl, 1, 4-bicyclo(2.2.2)octylene; Z^1, Z^2 = COO, OCO, CH_2O, OCH_2, CH_2CH_2, -C≡C- or a single bond; m = 0, 1 or 2. See the schemes 1 and 2 below

Scheme 1


1. BuLi/TMEDA
2. B(OCH3)3
3. H+/H2O2
4. R1-Br/Base
(A)
1. BuLi/KO-t-Bu
2. R1-J/DMPU
1. BuLi/TMEDA
2. B(OCH3)3/H+
3. Br-R1/Pd0
1. BuLi/TMEDA
2. CO2
3. R1-OH
1. BuLi/TMEDA
2. J2
3. HC≡C-R1
Pd II-Kat
CuJ
H2

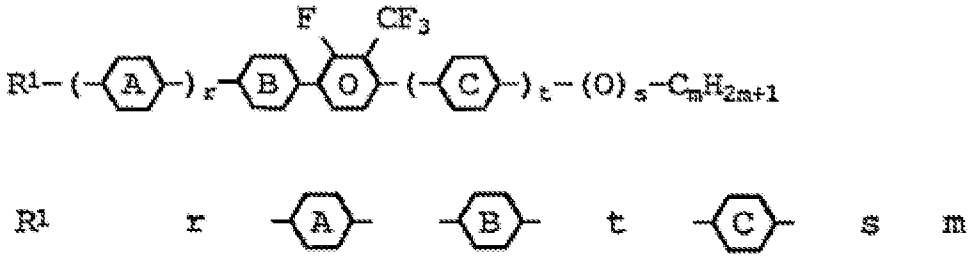
A B: O, oder ;

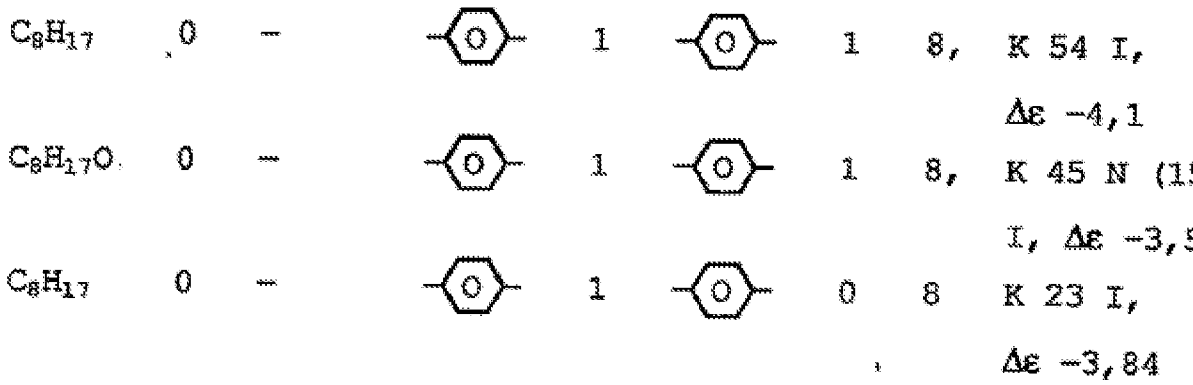
Scheme 2



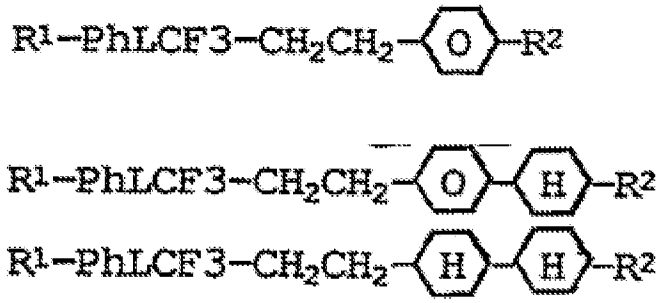
.

Particularly, the compounds below (on page 27) read on the present formula (2) wherein m=0, j or k=1, n=1 and p=q=0. It is noted that Applicants interpret the reference compounds as m=1 instead m =0.

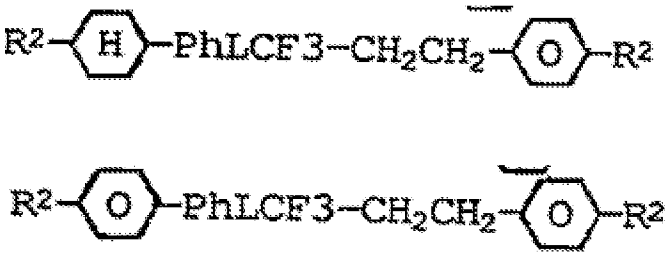




The reference compounds Ib2, If3 and If4 on page 8 read on the present formulae (2-1) and (2-3) with W = -CH_2CH_2- (m=1) and L=F.



Also, see the reference formulae Io3 and Io6 on page 8 and page 9, respectively.



With respect to claim (2-6), see the final products of schemes 1 and 2 with m=1 or 2.

The reference compounds are useful as components of liquid crystal (LC) media for electro-optical displays. The reference anticipates the claimed invention.

With respect to claims 12-15, 23-30 and 37-44, if not anticipated because the present compounds are not exemplified by the reference, it would have been obvious to those skilled in the art to utilize the reference teaching by modifying the starting materials (position isomers at phenyl ring) in schemes 2 and 3 to arrive at the claimed compound and used in liquid crystal composition and device thereof.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-11, 16-22, 31-44 and 46 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-36 of U.S. Patent No. 7,306,831. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claims the same subject matters between the present claims and the claims of US '831.

7. Claims 1-11, 16-22, 31-44 and 46 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of copending Application No. 11/108,002. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claims the same subject matters between the present claims and the claims of US '002.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

8. Applicant's arguments filed 6/15/09 have been fully considered but they are not persuasive. See paragraphs 3 and 4 above, particularly, the sentences underlined. Therefore, the rejections in the previous Office action are still maintained.

9. Claim 11 is objected to under 37 CFR 1.75 as being a duplicate of claim 10.

Allowable Subject Matter

10. Claims 24 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 10:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kelly Cynthia can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shean C Wu/
Primary Examiner, Art Unit 1795

scw